

Abstract

Charles University in Prague, Faculty of Pharmacy in Hradec Králové

Department of: Department of Biological and Medicinal Sciences

Head of the thesis: PhDr. Zdeňka Kudláčková, Ph.D.

Consultant: MUDr. Jakub Cvek, Ph.D.

Student: Barbora Šlachtová

Title of Thesis: Renal cell carcinoma treatment - biological therapy

Background: The aim of this thesis was to become more familiar with the issue of renal cancer, treatment options, focusing on targeted therapy and its specific products, comparing results from registration studies and RENIS database and evaluating results of targeted therapy in clinical practice.

Main findings: The main treatment for localized kidney cancer is surgical removal of the tumour. Targeted biological treatment, which focuses only on tumor cells, becomes more used in treatment of advanced and metastatic stages. Currently are registered tyrosine-kinase inhibitors of receptors for angiogenic growth factors, sorafenib, sunitinib, axitinib and pazopanib, monoclonal antibody neutralizing vascular endothelial growth factor bevacizumab and mTOR inhibitors and everolimus, temsirolimus.

Conclusions: The results of targeted therapies in clinical practice in the Czech Republic are comparable with the results of registered randomized trials, and in some cases are even better. Targeted therapy is a revolutionary change in the treatment of RCC. It prolongs most patients' lives, extends time to disease progression, improves patients' quality of life, but still mRCC remains an incurable disease.

Key words: renal carcinoma, targeted biological therapy, receptor tyrosine kinase inhibitors, mTOR inhibitors, monoclonal antibody against VEGF, axitinib, bevacizumab, everolimus, pazopanib, sorafenib, sunitinib, temsirolimus.